Intelligent Storage™

FastStor® 1 Quick Installation Guide

Advanced Digital Information Corporation



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Introduction

This guide is designed to enable quick installation of the ADIC FastStor 1 autoloader. For additional product and operation details, please refer to the ADIC FastStor 1 Installation and User Manual.

The following steps summarize FastStor 1 installation:

- Unpack the FastStor 1
- Install the FastStor 1 in a rack
- Connect the power cable to the FastStor 1
- Turn on the FastStor 1
- Remove the transport lock by following the instructions displayed on the front panel
- Select the appropriate SCSI IDs and unit options
- Connect the SCSI interface cable, and optionally the Ethernet cable
- Install the backup application software and configure it for use with the FastStor 1
- Load cartridges into the removable magazines

In order to complete full installation of the FastStor 1, the following additional materials are required:

- Simple hand tools (small Phillips screwdriver)
- SCSI Host adapter card with 68-pin wide HD or VHDC connector
- Tape application software that is verified with the FastStor 1
- Up to 8 pieces of the appropriate cartridge type to “stock” the FastStor 1 to full capacity.

Front Panel of the FastStor 1

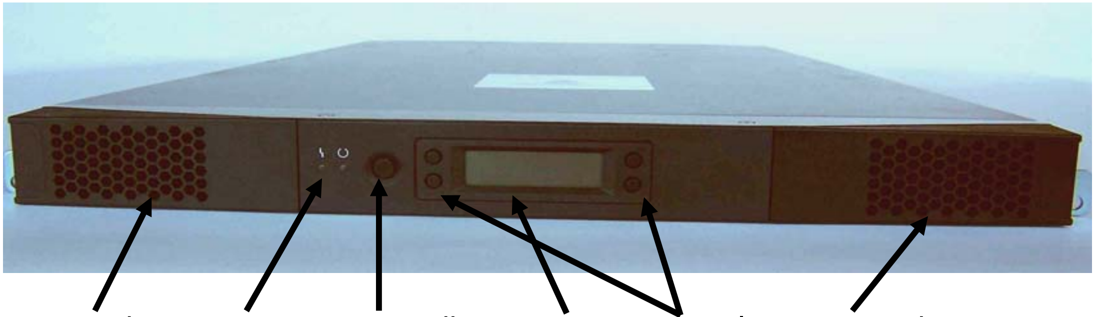


Figure 1. The FastStor 1's front side

Step 1. Unpacking the FastStor 1

Carefully unpack the unit from the shipping container. Save the container and packing materials in case you need to transport the FastStor 1 in the future. The packaging is specifically designed for the loader to ensure it is not damaged during transportation.

Review the contents of the shipping container to be sure all parts were included in the shipment. A standard package for the FastStor 1 consists of the following items:

- A factory-assembled FastStor 1 unit containing two cartridge magazines.
- A Standard Accessory Kit containing:
    - 1 Warranty/Registration Card
    - Rack-Mount Hardware Kit
    - 2 Line Power Cords: one for USA/Japan and one for European power outlets
    - 1 VHDCI SCSI Interface Cable
    - 1 VHDCI LVD/SE SCSI Terminator
    - 1 Ethernet cable
    - Tool for Emergency Magazine Release
    - Media barcode label kit (contains media labels and cleaning cartridge labels)

There may be variations of this list.

Note: The FastStor 1 is not shipped with tape cartridges.

Step 2. Installing the FastStor 1 in a Rack

The FastStor 1 is designed for use in a 19" rack system using 1U of rack space. The length of the power cord and the SCSI cable may restrict the placement.

Attention: The FastStor 1 is designed to operate in a horizontal position. Do not attempt to operate the FastStor 1 in any position other than horizontally. Also make sure that:

- The airflow around the front and back of the FastStor 1 is not obstructed.
- There is a minimum of 60cm free space in front of the unit to allow the operator to safely remove the magazines.
- The display and operator controls are easily accessed.
- The FastStor 1 is situated away from the floor and in a clean environment with temperatures within specifications.

The Rack Mounting Kit includes the following items:

- Rail Left Assembly
- Rail Right Assembly
- Screw M6x12 (4 pieces)
- Screw M5x8 (2 pieces)
- Screw M4x12 (4 pieces)
- Nut M4 Hex (4 pieces)
- Washer to M6 (4 pieces)
- Washer to M4 (4 pieces)

Recommended mounting tools:

- Folding rule or tape measure
- Phillips #2 screwdriver
- 7 mm open-end wrench

Note: The rails are mounted to the loader during transportation. Before mounting the rails into the rack, dismount the rails from the loader and remove the spacers between the rails and the loader.

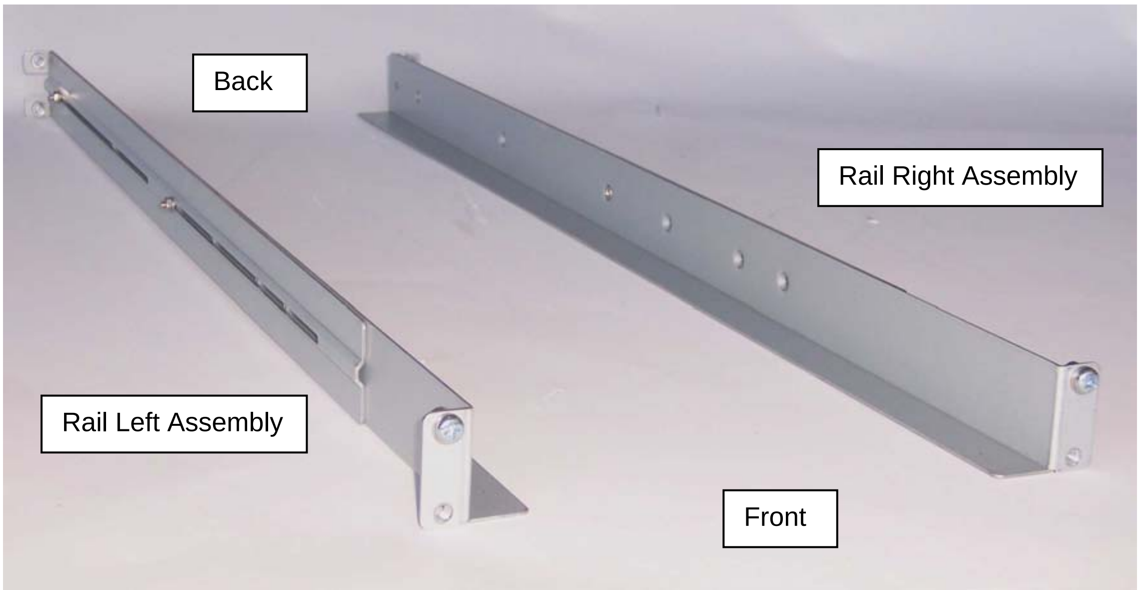


Figure 2. Rack Mounting kit

Installing the Rack Mounting Kit

- Determine the proper position of the rails in the rack.

> **Caution:** Consider rack stability when deciding where to place the FastStor 1. Hazardous conditions can result from uneven mechanical rack loading.

FastStor 1 uses 1U of vertical rack space. The rails must be installed in a full U position. The bottom of the rails must be aligned with the bottom of a U. See Figure 3.

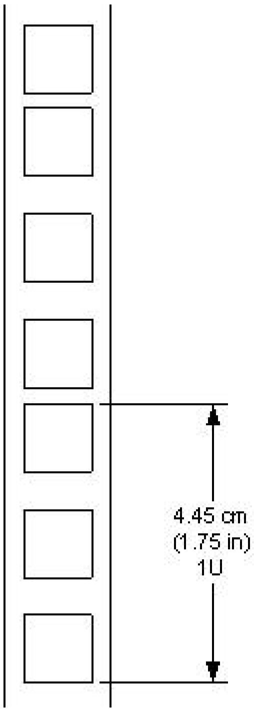


Figure 3. Rack mount rail

Installing the "Rail Left Assembly"

1. Measure the length between the rear rack mount rails and the front rack mount rails. If the measurement is shorter than the FastStor 1, move the two sets of screws M4x12, washers and nuts shown in Figure 4.
2. Adjust the "Rail Left Assembly" to fit the measurement in step 1.
3. Use a 7 mm open-end wrench together with the screwdriver to tighten the two M4x12 screws to fix the rail length. **Note**: *Using more than two screws will increase the stability of the Rack Mounting Kit.*
4. Place the "Rail Left Assembly" on the left side of the rack, between the rear rack mount rail and the front rack mount rail.
5. Mount the "Rail Left Assembly" at the desired height using one M6x12 screw in front (upper hole in rail only) and two M6x12 screws at the back. See Figure 5.

Installing the "Rail Right Assembly"

Follow the instruction for left side only using the "Rail Right Assembly" on the right side of the rack.

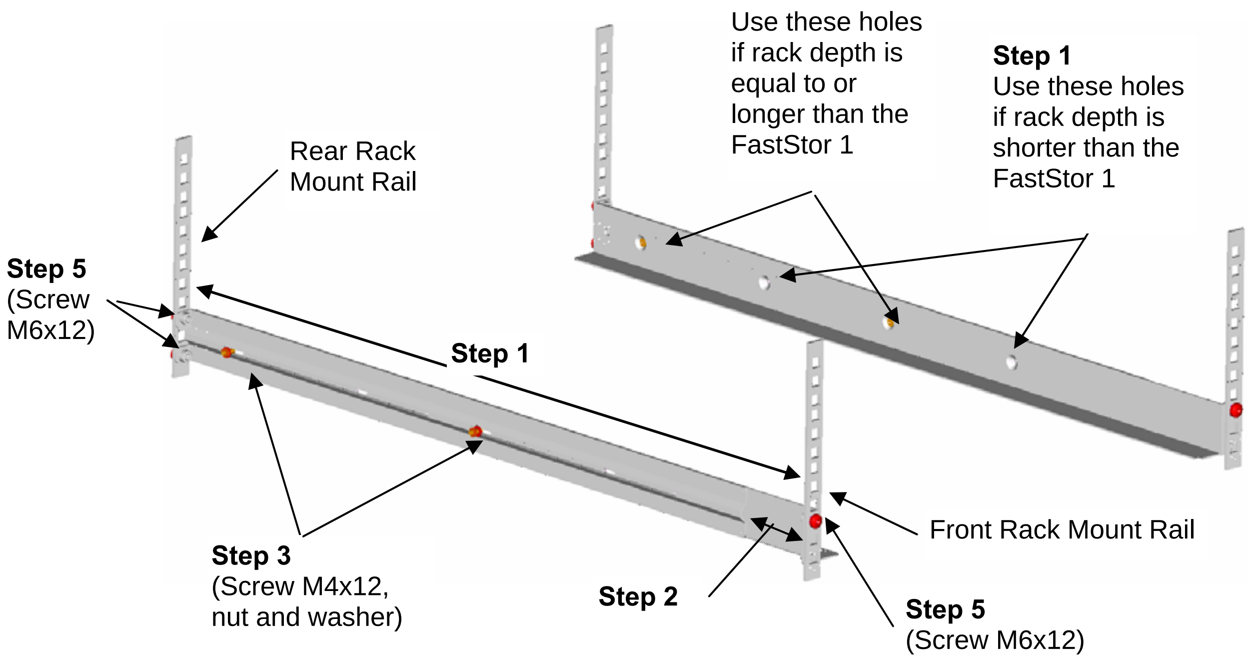


Figure 4. Mounting the Rack mounting kit to a rack

Figure 5 shows step 5 in the description:

Rack mounting kit mounted in rack with one screw M6x12 in upper hole on both left and right sides.

On the rear side, two screws must be used on both left and right sides.

A total of six screws are used to install the rack mounting kit to the rack.



Figure 5. Rack mounting kit mounted in rack

Mounting the FastStor 1 to the Rack

Make sure all screws in the Rack Mounting Kit are tightened properly before installing the FastStor 1 in the rack.

Slide the FastStor 1 on the rails from the front of the rack, as shown in Figure 6. Then secure the FastStor 1 using one M6x12 screw in front of the rack on both left and right sides (see Figure 7), and one M5x8 on the back of the Rack Mounting Kit on both left and right sides (see Figure 8).



Figure 6. Slide the FastStor 1 in from the front.



Figure 7. Fasten the front of the FastStor 1 to the rack.

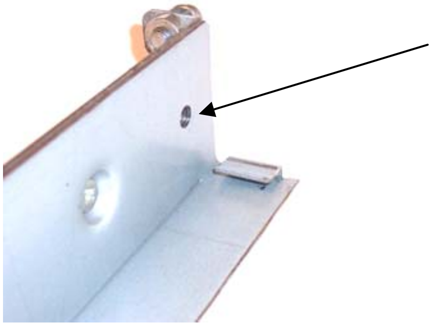


Figure 8. Fasten the rear of the FastStor 1 to the rails.

Step 3. Connecting Power Cable

Before connecting the FastStor 1 to your host computer system, you should run the unit's self-diagnostic test. (This preparation requires power to the FastStor 1.) Follow these steps to perform this test:

1. Use the power cables from the accessories included in the shipment. Make sure you select the power cord suited for your location's power system.

2. Plug the power cable into the rear of the FastStor 1 (see Figure 9). Plug the other end of the cable into a properly grounded electrical outlet.

Note: *Reliable grounding depends on grounding in the AC electrical outlet in which the FastStor 1's power cable is connected. Adding the FastStor 1 to an existing rack installation can cause a leaking current fault condition because of the summation of the leaking currents. For security, a 250V 2A (H) fuse is located near the power switch.*

3. Turn on the FastStor 1 by switching the Power Switch to "1".
   If the transport lock is present, the loader will detect this and instruct the user to remove it. (See Step 4.)

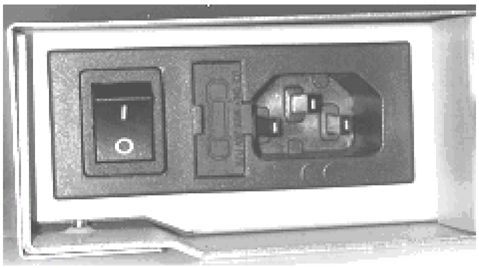


Figure 9. Power switch, fuse holder and power cord connection

Step 4. Removing the Transport Lock

The robot mechanism is protected from damage during shipment by a screw holding the robotics in a locked position. This locking screw is marked with a red plastic tab protruding between the right magazine and the front panel assembly.

This locking screw must be removed before the FastStor 1 can operate normally.



Figure 10. Magazine lock marked with red plastic tab

The locking screw is detected when the FastStor 1 is powered on. The display shows a message indicating the locking screw has been detected. The display instructs the user to remove the magazine to gain access to the locking screw. Remove the screw and reinsert the magazine. The loader will now continue its power-on sequence. See Step 5.

Note*: Keep the locking screw in a safe place. You will need it to lock the robot if you must return your FastStor 1 to the supplier for service or repair.*

Important: *The warranty does not cover damage to the loader if the unit is shipped without the locking screw properly installed.*

Step 5. Running Power-On Selftest

After the transport lock is removed, the loader will continue running it's power-on selftest and performing an inventory of its cartridges.

The word "Idle" and the cartridge map will appear on the default display screen. If the self-diagnostics and the inventory sequence complete successfully, the green LED illuminates. The FastStor 1 is now ready to be installed in the system.

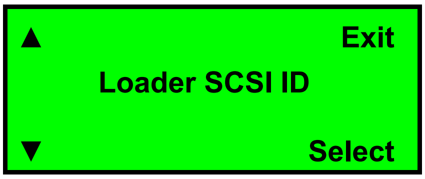
If a problem occurs during the power-on sequence, the FastStor 1 will show an error message on the display.

Step 6. Setting the SCSI Address

There is a LCD display on the front panel, and four control buttons. After the Power-on sequence is finished, select Menu and scroll down until you can select Setup. Then scroll down until the display looks like the figure below, and select SCSI setup.



The SCSI address is a unique address that identifies the unit connected to the SCSI bus. The FastStor 1 uses two SCSI addresses or IDs. One is for the loader robotics controller, and the other is for the tape drive. The SCSI addresses can be configured through the operator buttons and the display on the front panel. In most cases the default addresses can be used. The default SCSI address for the FastStor 1 robotics is 4, and the tape drive has its SCSI address set to 5.





To set the SCSI addresses for the FastStor 1 and the built-in tape drive, see the FastStor 1 Installation and User Manual for details. At this time you can also reserve a magazine slot for a cleaning cartridge and set a security password.

Changing some of these settings causes the FastStor 1 and the drive to automatically reboot.

Step 7. Connecting the SCSI Bus Cable

Guidelines before connecting the SCSI cable:

A) Turn off the FastStor 1 power switch before connecting the SCSI bus cable to the FastStor 1.

B) Make sure your host system is in a state where a new SCSI device can be safely connected to the SCSI bus.

C) Do not exceed SCSI bus length restrictions.

1. Add the length of all external and internal SCSI cables on the bus
2. Add 80 cm (31.5 inches) for the internal cable length in the FastStor 1.
3. If the number of SCSI devices exceeds two, the maximum allowed length of an LVD SCSI bus is 12 m (39 ft).
4. For an SE SCSI bus, be very careful regarding bus length. The normal combination has an SE bus transfer speed of 160 MB/s with a maximum bus length of 3 m (9.8ft) and up to 4 SCSI devices connected. If your SE system operates with a different transfer speed or has more than 4 SCSI devices, refer to the actual SCSI standard for complete bus length restrictions.

D) Before you power on the FastStor 1 and restart the system, make sure the SCSI bus is properly terminated. If the FastStor 1 terminates the SCSI bus, ADIC recommends that you connect the terminator from the accessory kit box on the lower SCSI connector on the back plane.

To connect the SCSI bus cable:

1. On the rear of the FastStor 1, attach the SCSI cable's device connector to the upper SCSI connector. (See Figure 11.)
2. Secure the cable with the thumbscrews on the connector.
3. Connect the other end of the SCSI cable to the appropriate SCSI adapter on your system, and then fasten it with the thumbscrews.
4. If the FastStor 1 is the last device on the SCSI bus, install a SCSI bus terminator to the free SCSI connector on the FastStor 1. Make sure the terminator is the correct type for your SCSI system.
5. It is possible to daisy chain several SCSI devices on the SCSI bus. If you do so, the terminator must be connected to the last device on the bus. Note that there are limitations to the SCSI cable length.

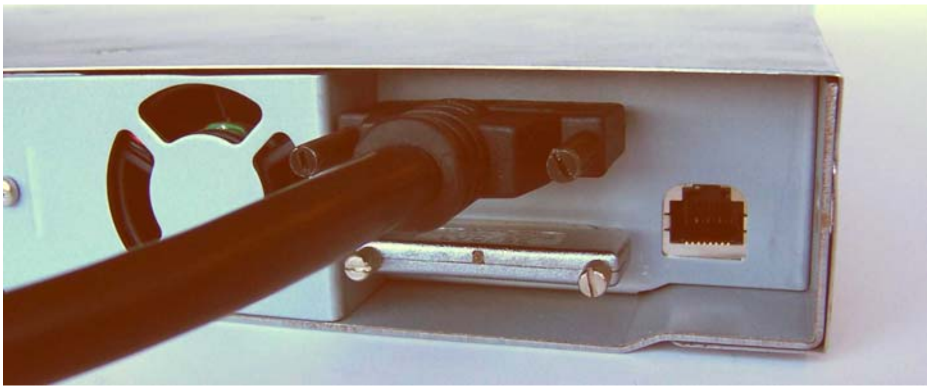


Figure 11. SCSI cable and SCSI terminator connection

Step 8. Connecting the Ethernet Connector

To connect the FastStor 1 to the Ethernet port, use the provided cable from the accessory kit box.

1. Insert one end of the cable into the FastStor 1 Ethernet port. Push until it snaps into place. (The open port shown in Figure 11 is for Ethernet connection.)

2. Connect the other end of the cable to a normal 10/100 BaseT Ethernet outlet.

Step 9. Restarting Your System

ADIC recommends that all external SCSI devices, including the FastStor 1, are powered on before you restart the computer system. After restarting your system, including the FastStor 1, the FastStor 1 runs a power-on selftest (as in Step 5 above). When the display reports that the FastStor 1 is in the "Idle" state and the green LED is on, the FastStor 1 is ready for further configuration and operation.

Note: The tape drive needs up to 40 seconds from power on until it's active on the SCSI bus. It is recommended to turn on the power at least 40 seconds before the computer system is started.

Step 10. BCR: Labeling cartridges

If your loader is equipped with a barcode reader and you want to use this functionality, you must attach barcode labels to the cartridges.

Note: You must use FastStor 1-specific barcode labels to ensure reliable functionality of the barcode reader. Cartridge labels **must** be oriented on the cartridges as shown in the following figure (locking feature on the left.)

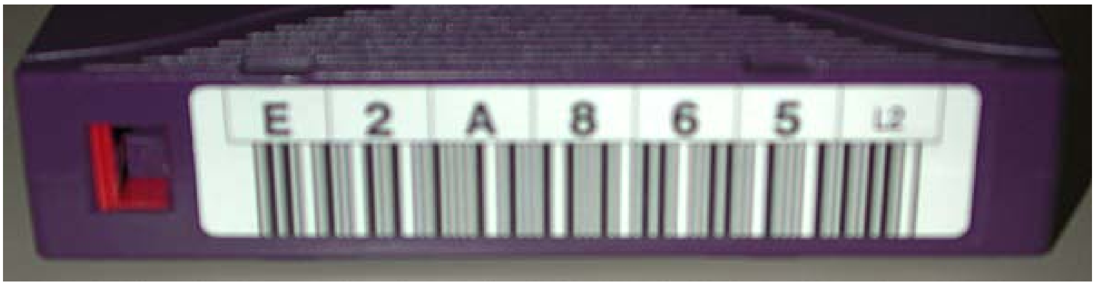


Figure 12. Positioning of barcode label for LTO cartridges.